'The True Value And Cost Of Achieving High Performing Health Systems'.

Chris Naylor, The Kings Fund, UK
Brenda Reiss-Brennan, Intermountain Healthcare, USA
Objectives

• The case for value change – why we need to embed a concern for behavioral/mental health and well-being within routine medical care
• Integration priorities for Health Institutions
• What do Patients and Families value?
• Why are we not making faster progress?
• Intermountains’ high performing culture of learning- A retrospective case study
• Bending the cost curve and improving outcomes
• Establishing value for social cooperation
Bringing together physical and mental health
A new frontier for integrated care

Available at:
www.kingsfund.org.uk
Triple integration

- Health and social care
- Hospital and out-of-hospital care
- Physical and mental health care
Four related issues

› High levels of comorbidity between physical and mental health conditions

› Limited support for the wider psychological aspects of physical health and illness

› Persistent inequalities in life expectancy among people with severe mental illnesses

› Poor management of medically unexplained symptoms
Mental and physical health are highly interdependent

- Long-term conditions: 30% of population

- Mental health problems: 20% of population

30% of people with a long-term condition have a mental health problem

46% of people with a mental health problem have a long-term condition

Naylor et al 2012
Toxic interactions: mental, physical and social

Barnett, Mercer et al 2012
Mental ill health increases the cost of physical health care

Annual per patient costs with and without depression (excluding MH treatment costs)

Costs of antidepressant prescriptions and mental health treatment are excluded. CHF: congestive heart failure; CAD: coronary artery disease; IVDD: intervertebral disc disease.
Mental ill health increases the cost of physical health care

Melek & Norris 2008
Mental ill health increases the cost of physical health care

Annual per patient costs with and without mental health problems

Beacon Health Strategies 2011
Significant financial impact across the health system

- Between 12% and 18% of all expenditure on long-term conditions in England is linked to poor mental health and wellbeing (Naylor et al 2012)

- People with MH problems use significantly more unplanned hospital care for physical health needs, including 3.6x higher rate of potentially avoidable admissions for ambulatory care-sensitive conditions (Dorning et al 2015)

- Medically-unexplained symptoms account for around 15-30% of GP appointments and around 3% of total NHS expenditure (Bermingham et al 2010)

- Perinatal mental health problems cost the NHS an estimated £1.2 billion for each annual cohort of births (Bauer et al 2014).
Multi-morbidity drives system costs

- **Very high** (top 2%)
- **High** (2% to 10%)
- **Medium** (10% to 50%)
- **Low** (bottom 50%)
Significantly poorer outcomes

Co-morbid MH problems have a greater effect on quality of life than any other form of co-morbidity (Mujica-Moto 2014)

Cardiovascular patients with depression experience 50 per cent more acute exacerbations per year (Whooley et al 2008)

Higher death rate from respiratory illness among people with co-morbid depression and schizophrenia (Lesperance et al 2002)

Patients with chronic heart failure are eight times more likely to die within 30 months if they have depression (Junger et al 2005)

People with diabetes and co-morbid depression have 37% increased risk of all-cause mortality over a two-year period (Katon et al 2004)

Men with schizophrenia die, on average, 20.5 years earlier than general population, and women with schizophrenia die 16.4 years earlier (Blumenthal et al 2003)

Mortality rates after heart attack by 3.5 times (Lesperance et al 2002)

People with diabetes and co-morbid depression have 37% increased risk of all-cause mortality over a two-year period (Katon et al 2004)

Men with schizophrenia die, on average, 20.5 years earlier than general population, and women with schizophrenia die 16.4 years earlier (Blumenthal et al 2003)

Co-morbid MH problems have a greater effect on quality of life than any other form of co-morbidity (Mujica-Moto 2014)
### 10 areas where integration is needed

<table>
<thead>
<tr>
<th>Prevention / public health</th>
<th>1. Incorporating mental health into public health programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Health promotion among people with severe mental illnesses</td>
</tr>
<tr>
<td>General practice</td>
<td>3. Improving management of ‘medically unexplained symptoms’</td>
</tr>
<tr>
<td></td>
<td>4. Strengthening primary care for the physical health needs of people with severe mental illnesses</td>
</tr>
<tr>
<td>Chronic disease management</td>
<td>5. Supporting the mental health of people with long-term conditions</td>
</tr>
<tr>
<td></td>
<td>6. Supporting the mental health and wellbeing of carers</td>
</tr>
<tr>
<td>Hospital care</td>
<td>7. Supporting mental health in acute hospitals</td>
</tr>
<tr>
<td></td>
<td>8. Addressing physical health in mental health inpatient facilities</td>
</tr>
<tr>
<td>Community / social care</td>
<td>9. Providing integrated support for perinatal mental health</td>
</tr>
<tr>
<td></td>
<td>10. Supporting the mental health needs of people in residential homes</td>
</tr>
</tbody>
</table>
3 dimensions of care for diabetes

- Integrates medical, psychological and social support for diabetics with persistent sub-optimal glycaemic control in South London

- Interventions
  - Diabetes management: medication support, diabetes education
  - Mental health: psychological interventions, family work, drugs
  - Social: debt management, housing support, occupational rehab
  - Patient-led case meetings held regularly with MDT members

- Outcomes
  - Significant, sustained improvement in diabetes control
  - Reduction in complications and unscheduled care
  - Approx. 35% return on investment per year
Primary care psychotherapy consultation service

- Outreach service provided to GPs in two areas of London. MDT of mental health professionals attend practices to help GPs manage patients with complex needs.

- Clinical and educational functions
  - direct one-to-one consultations with patients
  - joint consultations with a patient and their GP
  - consultations with GPs or other practice staff

- Outcomes
  - Increased confidence among GPs
  - Significant improvements in mental health and functioning
  - Reduced service use: a third of the costs were offset by savings elsewhere
Swindon LIFT Psychology

› Supported self-management for the psychological aspects of living with a long-term condition or medically unexplained symptoms

› Service model
  › ‘Least intervention first time’: Direct access to psycho-educational courses without referral
  › One-to-one supported self-help and psychological interventions for those who need them
  › Delivered in GP surgeries, schools/colleges, libraries

› Outcomes
  › Significant reduction in waiting times
  › Removal of stigma associated with mental health referral
  › Reduced referrals into specialist MH services?
Getting the basics right

- Good communication skills, careful use of language
- Not about turning everyone into ‘experts in everything’
- Willingness to take a ‘whole person’ perspective
What is holding us back?

**System barriers**
› Separate budgets and payment systems
› Incompatible IT systems
› Weak system leadership

**Workforce barriers**
› Workforce skills and development needs
› Professional attitudes
› Stigma and entrenched beliefs
› Working conditions
Mind Body Healing in Primary Care
Mental Health Integration

Normalizing Team Based Care
at Intermountain Healthcare, USA

Brenda Reiss-Brennan, PhD, APRN
Intermountain Healthcare
Primary Care Clinical Program
brenda.reiss-brennan@imail.org
IHI International Forum
Sweden, 2016
Highly Integrated Health System

Our Charge: “To help people live the healthiest lives possible”

Hospitals
- Since 1975
  - 22 hospitals
  - 2,784 licensed beds

SelectHealth
- Since 1983
  - Health plans
  - 700,000+ members

Medical Group
- Since 1994
  - 1,200 employed physicians
  - 558 advanced practice clinicians

Clinical Programs
- Since 1997
  - 10 key service lines
American Healthcare
Amazing Successes and Tragic Failures

Rescue Care vs Prevention and Effective Management of Chronic Conditions
What Shapes Population Health?

- Lifestyle 51%
  - Smoking
  - Obesity
  - Stress
  - Nutrition
  - Blood pressure
  - Alcohol
  - Drug use

- Human Biology 20%

- Environment 19%

- Health Care 10%

1 death every 20 seconds by 2020  (WHO, 2014)
Emerging Trends – “Room With a View”

In evaluating trends across the healthcare sector from both a payer and provider perspective, it’s clear that the demand for mental and behavioral health services far outstrips the supply available – most data highlights that this trend is likely to continue.

**National Number of Psychiatry Beds**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>160,645</td>
</tr>
<tr>
<td>2009</td>
<td>114,000</td>
</tr>
</tbody>
</table>

**Emergency Physicians Reporting Boarding Psychiatric Patients**

- Yes: 79%
- No: 21%

- 50% report at least once per day

**EDs Increasingly Boarding Behavioral Health Patients**

- **7-11 Hours**: Median length of stay for patients awaiting psych evaluation in EDs
- **33%**: Of boarded psych patients stay in EDs at least eight hours after decision to admit
- **44%**: Of ED visits that do not result in admission or death are due to behavioral problems

“The circumstances in which people live and work are related to their risk of illness and length of life” Marmot (2004) The Status Syndrome

Our focus should be on the conditions for good health
Culture of a Learning: Builds Value

- Common Vision
- Clinical Work Processes
- Data and Evaluation Transparency
The Intermountain Way

Improved quality & service + Evidence-based practice + Systematic approach: measure & improve

ALWAYS DO THE RIGHT THING!

SUCCESS Always led by clinical but including operational, financial and even governance!
“If I don’t do it, who else will? I am all they have. I have been forced to treat depression alone.”

(PCP Non-MHI Clinic)
I was left to figure it out on my own, we never talked about it, he just refilled my meds ($p < .01$) Non-MHI Clinic
The Intermountain Way

Clinical Integration: Management of Complex Chronic Disease in Primary Care

<table>
<thead>
<tr>
<th>Mental Health Integration Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes, Asthma, Heart Disease, Depression, Hypertension, ADHD, Obesity, Chronic Pain, SUD, etc.</td>
</tr>
<tr>
<td>2/3 – cared for routinely in primary care</td>
</tr>
<tr>
<td>Patient &amp; Family, PCP, and Care Manager (CM) as needed</td>
</tr>
</tbody>
</table>

*Primary Care Physician (PCP) includes: General Internist, Family Practitioner, Pediatrician*
IMPROVING OUTCOMES & BENDING THE COST CURVE

Evidence-based Care Process Models
Mental Health Integration (CPM) provides evidence based team approach and tools for caring for patients/persons and families.

### What is Mental Health Integration?

A standardized clinical and operational team relational process that incorporates mental health as a complementary component of wellness & healing.

### Essential Integrated Elements

<table>
<thead>
<tr>
<th></th>
<th>Essential Integrated Elements</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Leadership and culture</strong> – champions establishing a core value of accountable and cooperative relationships</td>
</tr>
<tr>
<td>2</td>
<td><strong>Workflow</strong> – engaging patients on the team and matching their complexity and need to the right level of support</td>
</tr>
<tr>
<td>3</td>
<td><strong>Information systems</strong> – EMR, EDW, registries, dashboard to support team communication and outcome tracking</td>
</tr>
<tr>
<td>4</td>
<td><strong>Financing and operations</strong> – projecting, budgeting and sustaining team FTE to measure the ROI</td>
</tr>
<tr>
<td>5</td>
<td><strong>Community resources</strong> – who are our community partners to help us engage our population in sustaining wellness</td>
</tr>
</tbody>
</table>
Our framework for Mental Health Integration is focused on clinical quality, the patient experience and decreasing overall costs.

**Strategy**: Mental Health Integration – A team approach to clinics.
Improving Physician Satisfaction

Primary Care Provider Impressions

- Ability to identify mental health needs of patients: 3.25 (Pre-MHI) vs. 3.96 (Post-MHI)
- Ability to work with patients with mental health needs: 3.09 (Pre-MHI) vs. 3.82 (Post-MHI)
- Ability to work with families of patients with mental health needs: 2.89 (Pre-MHI) vs. 3.46 (Post-MHI)
- Ability to work with non-compliant or "difficult to treat" patients: 2.42 (Pre-MHI) vs. 2.42 (Post-MHI)
- Ability to work with families of non-compliant or "difficult to treat" patients: 2.42 (Pre-MHI) vs. 2.56 (Post-MHI)
- Resources and support to help meet mental health needs: 3.00 (Pre-MHI) vs. 3.86 (Post-MHI)
- Potential for effective mental health integration in clinic: 3.00 (Pre-MHI) vs. 3.82 (Post-MHI)

* = p < .05
** = p < .001
**Patient Satisfaction**

- **The sensitivity of the physician to your emotional or mental health concerns**
- **How well the physician listened and understood what you were saying (about your emotional or mental health concerns)**
- **How well the physician explained things to you (about your emotional or mental health concerns)**
- **How knowledgeable the physician was about your emotional or mental health concerns**
- **How well your mental health services have been coordinated**
- **Being able to get the mental health care you need when you need it**
- **The overall quality of care and services you received for your emotional or mental health needs**

* = p < .05
The Flow of Information: Team Message Log

- Use of EMR
  - Team Feedback: MHI dashboard
  - COLLABORATIVE MHI TEAM
    - Complex Co morbid Family Support
    - Family Isolated/Chaotic
    - GS=4-6
    - Moderate Complexity
  - MHS
    - Psych Co Morbidity
    - Family Support
    - Burden
    - Danger Risk
    - GS=6-7
    - Severe Complexity

Depression registry \( n = 501,258 \) distinct patients

Most recent reporting period (last 12 months): \( n = 172,879 \) distinct patients
- 56,377 distinct patients have at least one coded PHQ-9

Registry (EDW) – 1999 to present
Linking Cost and Quality Outcomes

<table>
<thead>
<tr>
<th>PHQ-9 Initial Severity</th>
<th>Decrease of &gt;=5 points within 3 months</th>
<th>Decrease of &gt;=5 points within 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-27 points</td>
<td>70.9% *</td>
<td>62.6% *</td>
</tr>
<tr>
<td>15-19 points</td>
<td>65.1% **</td>
<td>50.8%</td>
</tr>
<tr>
<td>6-14 points</td>
<td>48.7% *</td>
<td>38.8%</td>
</tr>
</tbody>
</table>

*Difference between significant improvement and no significant change is <0.001
**Difference between significant improvement and no significant change is <0.01

**Significant Functional Improvement**

54% Reduction in ER utilization
For depressed patients treated in MHI Clinics
Total Savings to the Insurance Plan (SelectHealth)

Difference in Per Patient Allowed Charges Between Pre and Post (in 2005 dollars)
For All Service Lines

<table>
<thead>
<tr>
<th>Service Lines</th>
<th>2005 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHI (N=796)</td>
<td>$640</td>
</tr>
<tr>
<td>Non-MHI (N=429)</td>
<td>$1,046</td>
</tr>
<tr>
<td>Savings</td>
<td>$667</td>
</tr>
</tbody>
</table>

Savings to the Insurance Plan (SelectHealth)

Remaining service lines includes:
Inpatient Services: Obstetrical and Surgical;
Outpatient Services: Urgent care, Specialty care;
Ancillary Services: Pharmacy for other drugs, Lab, Outpatient Radiology and Testing,
Outpatient other, Chemo and radiotherapy, and Other miscellaneous.
Scaling Team-Based Care for Population Health

Mental Health Integration
Intermountain Primary Care & Specialty Clinics

• Holistic approach to patient’s health
• Best practices in all clinical domains
• Team members work at the “top of their licenses”
• Established routine protocols and system-based care coordination
• Foundation for population health management and financial risk
Primary Care Clinics by Phase of MHI Implementation

Rogers, E. *Diffusion of Innovations*, 1995—discussion of stages
MHI Dashboard: Active Surveillance

- Measures:
  - ED rate and cost for all dx and MH dx
  - Hospitalization rate and cost for all dx and MH dx
  - Total cost of care for SelectHealth patients only
  - Screening rate for depression
  - Change in PHQ9
  - No show rate
MHI Scorecard:  
Implementation Roadmap

• Measures:
  – Leadership and Culture
  – Workflow Integration
  – Information Systems
  – Financial/Cost of Care/Operations
  – Community Resources (Internal and External)
APEX (Electronic) Scorecard

### Score Summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Score</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership and Culture</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>2. Workflow Integration</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>3. Information Systems</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>4. Financial &amp; Cost of Care/Operations</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>5. Community Resources (Internal &amp; External)</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Total Score</td>
<td>22</td>
<td>66</td>
</tr>
</tbody>
</table>

### SECTION 1: Leadership and Culture

<table>
<thead>
<tr>
<th>Description</th>
<th>1 (0 is min)</th>
<th>2</th>
<th>3 (is max)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Tri-Aim Leadership</td>
<td>1 - IHU staffing model is reviewed for IHU needs (see document) 2 - Team roles and responsibilities, are identified and reviewed (see document) 3 - Regional Leadership meeting is agreed upon.</td>
<td>1 - IHU staffing model for IHU needs; Continuous monitoring of staffing needs &amp; preparing IHU budget. 2 - Team roles and responsibilities; Monitor team fit and utilization. 3 - Regional Leadership meeting; Hold routine meetings (monthly or quarterly).</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physician Champion</td>
<td>1 - Physician lead: Identify lead physician &amp; Practice manager informs them of their role. 2 - Lead physician has signed to IHU responsibility champion</td>
<td>1 - Physician lead: Takes ownership for MHU by using MHU packet &amp; treatment cascade. 2 - Lead physician is responsible for MHU part of the PCC.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Practice Manager establishes workflow and makes sure all team members are accountable</td>
<td>1 - Practice manager: Understands your IHU process role as defined in the “Roles &amp; Responsibility” document; 2 - Understands the Orientation checklist. “IHU Provider: Staff and Operational Checklists”</td>
<td>1 - Practice manager: Accountable for monitoring day to day compliance to the roles, process by checking the IHU workflow, IHU Dashboard and IHU scorecard measures. 2 - Identify and remove barriers. 3 - Practice manager demonstrates and communicates that IHU is an expected organized process in the clinic by engaging team members for input in reviewing the IHU Dashboard and MHU scorecard measures.</td>
<td>1</td>
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*All medical providers (Medical assistants, RNs, Care Manager, Health Advocate, Care Guide, Practice Manager, Social Worker) working at the clinic are trained in the MH program.*

*Understand MHU 5 key components (scorecard), (Leadership and Culture, Workflow Integration, Information System, IHU Team Care Process Model, and Operations, MHU Role and Accountability) (online training of the implementation process of planning, adoption and utilization) Part I, Mental Health Integration Overview video) Part I: Orientation to the Mental Health Integration Family Pattern Profile video. Part II: Mental Health Integration Baseline Evaluation Packets video) Part I: Mental Health Integration Baseline Evaluation Packets video) Part II: Mental Health Integration Baseline Evaluation Packets video) Part III: Mental Health Integration Baseline Evaluation Packets video)

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1. Medical providers and staff participate in IHU training provided by regional / central office leadership.

2. Practice Manager: assign videos to MHU providers and staff. 2. Use My Learning to track that 75% of MHU providers and staff have completed videos.

3. Medical and MHU Providers read and understand the Care Process Model (CPM).

4. Practice Managers: assign videos to MHU providers and staff. 2. Use My Learning to track that 100% of MHU providers and staff have completed videos. 3. Medical and MHU Providers / Staff. Keep current by attending MHU bootcamp. MHU retreat, Primary Care Program Critical Learning Days, and requests for any additional training.

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### Scorecard Sections

- **Scorecard Summary**
- **Score Summary**
- **Scorecard Sections**
- **Scorecard Completion**

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### Scorecard Completion

- **Scorecard Completion**
- **Score Summary**
- **Scorecard Sections**
- **Scorecard Completion**
Differences in patient-perceived coordinated team interactions by Mental Health Integration (MHI) clinic phase.
Multiple Team Touches
(p < .001)

‘we are on the same page’
First – A Key Definition

+ Team-Based Care (TBC) is the combination of Personalized Primary Care (PPC) and Mental Health Integration (MHI)

\[ TBC = \text{PPC} + \text{MHI} \]
Key Research Aim

“Do clinics with high performing team-based care provide greater value compared to other clinics operating under a more traditional patient management approach and as measured by quality and clinical outcomes, cost, utilization, patient and family service and staff outcomes?”
Team performance towards Routinization

Progression of Team-Based Care in the Intermountain Delivery System

![Graph showing the progression of Team-Based Care in the Intermountain Delivery System from 2003 to 2013.](image)
Delivery System Study: Design and Methods - Summary

DELIVERY SYSTEM COHORT

Longitudinal closed cohort
- At least one visit to IMG PCP within 2003 – 2005.
- Adult patients (≥ 18 years of age).

Stable, consistent relationship with Intermountain
- Patients accessed care within Intermountain facilities/clinics for ≥10 years; allowing 1 gap year.

Size ≈ 130,000 patients
Team-Based Care (TBC) Intervention

Characteristics of Routinized TBC

- Physician engagement
- Care coordination & established routine protocols
- Team communication through EMR and reporting tools
- Operational efficiency and monitoring
- Outreach to family and community

MHI exposure based on Roger’s diffusion of innovation levels and MHI scorecard:

- Level 0: No MHI
- Level 1: Planning (score 1 – 20)
- Level 2: Adoption (score 21 – 40)
- Level 3: Routinized (score 41 – 63)

PPC exposure based on modified NCQA self assessment tool:

- Level 0: No PPC
- Level 1: Planning (score 35 – 64)
- Level 2: Adoption (score 65 – 84)
- Level 3: Routinized (score >= 85)

Note: Each practice was given an MHI and PPC exposure level by year (2003 to 2013)
**Delivery System Study:** % Change in Quality (All Payers)

*Routinized TBC vs. No TBC*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Change (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual visit with PCP</td>
<td>8.75%</td>
<td>0.002</td>
</tr>
<tr>
<td>PHQ9 Screen</td>
<td>90.58%</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Adherence to DM Bundle</td>
<td>25.97%</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>HTN in Control</td>
<td>-12.76%</td>
<td>0.002</td>
</tr>
<tr>
<td>Advanced Directives</td>
<td>-3.30%</td>
<td>0.281</td>
</tr>
</tbody>
</table>

*Self-Care Plans were also evaluated (outcome = 559%, p<0.0001); but was not included in graphic due to scale differences*
An investment of $22 per-member-per-year (PMPY) decreased medical expenses by $115 PMPY
Team-Based Care: More Than Just a Program

“My doctor was the first person to treat me as a whole person...”
Redesigning Care

Engaging Patients and Members

Shared Accountability
Population Health

Aligning Financial Incentives

COMMON VISION